



SEQUENCE LISTING

<110> JIAO, JIN-AN WONG, HING C. <120> ANTIBODIES FOR INHIBITING BLOOD COAGULATION AND METHODS OF USE THEREOF <130> 71758/46943-CIP2 <140> 09/990,586 <141> 2001-11-21 <150> 09/293,854 <151> 1999-04-16 <160> 102 <170> PatentIn Ver. 2.1 <210> 1 <211> 321 <212> DNA <213> Homo sapiens <220> <221> CDS <222> (1)..(321) <400> 1 gac att cag atg acc cag tot cot goo too cag tot goa tot otg gga 48 Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Gln Ser Ala Ser Leu Gly gaa agt gtc acc atc aca tgc ctg gca agt cag acc att gat aca tgg 96 Glu Ser Val Thr Ile Thr Cys Leu Ala Ser Gln Thr Ile Asp Thr Trp 20 tta gca tgg tat cag cag aaa cca ggg aaa tct cct cag ctc ctg att Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Gln Leu Leu Ile 40 tat gct gcc acc aac ttg gca gat ggg gtc cca tca agg ttc agt ggc 192 Tyr Ala Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly agt gga tet gge aca aaa ttt tet tte aag ate age age eta cag get 240 Ser Gly Ser Gly Thr Lys Phe Ser Phe Lys Ile Ser Ser Leu Gln Ala 65 70 75 gaa gat ttt gta aat tat tac tgt caa caa gtt tac agt tct cca ttc Glu Asp Phe Val Asn Tyr Tyr Cys Gln Gln Val Tyr Ser Ser Pro Phe 85 90 acg ttc ggt gct ggg acc aag ctg gag ctg aaa 321 Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys

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Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Gln Leu Leu Ile
Tyr Ala Ala Thr Asn Leu Ala Asp Gly Val Pro Ser Arg Phe Ser Gly
Ser Gly Ser Gly Thr Lys Phe Ser Phe Lys Ile Ser Ser Leu Gln Ala
Glu Asp Phe Val Asn Tyr Tyr Cys Gln Gln Val Tyr Ser Ser Pro Phe
Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
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Glu Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
tca gtg cag gta tcc tgc aag act tct ggt tac tca ttc act gac tac
                                                                   96
Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Asp Tyr
aac gtg tac tgg gtg agg cag agc cat gga aag agc ctt gag tgg att
Asn Val Tyr Trp Val Arg Gln Ser His Gly Lys Ser Leu Glu Trp Ile
         35
gga tat att gat cet tac aat ggt att act atc tac gac cag aac ttc
Gly Tyr Ile Asp Pro Tyr Asn Gly Ile Thr Ile Tyr Asp Gln Asn Phe
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aag ggc aag gcc aca ttg act gtt gac aag tct tcc acc aca gcc ttc

Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Thr Ala Phe 70 atg cat ctc aac agc ctg aca tct gac gac tct gca gtt tat ttc tgt 288 Met His Leu Asn Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys 90 gea aga gat gtg act acg gcc ctt gac ttc tgg ggc caa ggc acc act 336 Ala Arg Asp Val Thr Thr Ala Leu Asp Phe Trp Gly Gln Gly Thr Thr 105 ctc aca gtc tcc tca 351 Leu Thr Val Ser Ser 115 <210> 4 <211> 117 <212> PRT <213> Homo sapiens <400> 4 Glu Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Asp Tyr Asn Val Tyr Trp Val Arg Gln Ser His Gly Lys Ser Leu Glu Trp Ile 35 Gly Tyr Ile Asp Pro Tyr Asn Gly Ile Thr Ile Tyr Asp Gln Asn Phe Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Thr Thr Ala Phe Met His Leu Asn Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Asp Val Thr Thr Ala Leu Asp Phe Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser 115 <210> 5 <211> 7 <212> PRT <213> Homo sapiens <400> 5 Leu Ala Ser Gln Thr Ile Asp

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Ala Ala Thr Asn Leu Ala Asp
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Gln Gln Val Tyr Ser Ser Pro Phe Thr
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Thr Asp Tyr Asn Val Tyr
1 5
<210> 9
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Tyr Ile Asp Pro Tyr Asn Gly Ile Thr Ile Tyr Asp Gln Asn Phe Lys
Gly
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caacaagttt acagttctcc attcacgt	28	
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actgactaca acgtgtac	18	
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J J - J	24 .	
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atatactcgc gacagctaca ggtgtccact ccgagatcca gctgcagcag tc
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<212> PRT
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<213> Homo sapiens

<400> 27

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly
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Asp Arg Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Leu Ile Tyr 35

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<213> Homo sapiens

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Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
20 25 30

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
35 40

<210> 29

<211> 44

<212> PRT

<213> Homo sapiens

<400> 29

Gln Ile Gln Leu Val Gln Ser Gly Gly Glu Val Lys Lys Pro Gly Ala 1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly
35 40

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<211> 43

<212> PRT

<213> Homo sapiens

<400> 30

Lys Ala Thr Leu Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu

1 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg
20 25 30

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser 35 40

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<213> Homo sapiens
<400> 32
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agcgaattct gaggagactg tgacagtggt gccttggccc cag
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<211> 38
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gcatctcaac agcctgagat ctgaagacac tgcagtttat ttctgtg
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gtcttcagat ctcaggctgc tgagctccat gaaggctgtg gtg
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<212> DNA
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<211> 49
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<212> DNA
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tcgtacgtct tgtcccagat ccagctggtg cagtctggag gtgagc
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<211> 44
<212> DNA
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<211> 32
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<210> 46
<211> 32
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<400> 46
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<400> 47
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<210> 48
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<212> DNA
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<223> Description of Artificial Sequence: Primer
ggcttcttca cctcaggtcc agactgcacc agc
                                                                    33
<210> 49
<211> 36
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<211> 30
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
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cagtctggac ctgaggtggt gaagcctggg
<210> 52
<211> 30
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 52
cccaggette accaceteag gtecagaetg
                                                                   30
<210> 53
<211> 42
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<223> Description of Artificial Sequence: Primer
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<212> DNA
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<212> DNA
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<212> DNA
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ccctggtttc tgcagatacc atgctaacc
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                                                                    25
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<211> 31
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<223> Description of Artificial Sequence: Primer
ccacagatgc agacagggag gcaggagact g
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<210> 59
<211> 51
<212> DNA
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ttcgaaaagt gtacttacgt ttgatctcca gcttggtacc agcaccgaac g
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<210> 61
<211> 36
<212> DNA
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<210> 62
<211> 40
<212> DNA
<213> Artificial Sequence
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<211> 47
<212> DNA
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<212> DNA
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<211> 44
<212> DNA
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<210> 67
<211> 44
<212> DNA
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<400> 67
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<210> 68
<211> 40
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 68
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<210> 69
<211> 40
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<212> DNA
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Primer
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<211> 33
<212> DNA
<213> Artificial Sequence
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<210> 71
<211> 33
<212> DNA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Primer
<400> 71
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Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser
Gly Thr Lys Phe Ser Phe Lys Ile Ser Ser Leu Gln Ala Glu Asp Phe
Val Asn Tyr Tyr Cys Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
<210> 73
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<211> 79

<212> PRT

<213> Homo sapiens

<400> 73

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Gln Ser Ala Ser Leu Gly
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Glu Ser Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Lys Phe Ser Phe Lys Ile Ser Ser Leu Gln Ala Glu Asp Phe 50 55 60

Val Asn Tyr Tyr Cys Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys 65 70 75

<210> 74

<211> 79

<212> PRT

<213> Homo sapiens

<400> 74

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Gln Ser Ala Ser Leu Gly
1 5 10 15

Glu Ser Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Lys Phe Ser Phe Lys Ile Ser Ser Leu Gln Ala Glu Asp Phe 50 55 60

Val Asn Tyr Tyr Cys Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys 65 70 75

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<212> PRT

<213> Homo sapiens

<400> 75

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Lys Phe Ser Phe Lys Ile Ser Ser Leu Gln Ala Glu Asp Phe 50 55 60

Val Asn Tyr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys 65 70 75

<210> 76

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<212> PRT

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<400> 76

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Gln Ser Ala Ser Leu Gly
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Glu Ser Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Lys Phe Ser Phe Lys Ile Ser Ser Leu Gln Ala Glu Asp Phe 50 55 60

Val Asn Tyr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
65 70 . 75

<210> 77

<211> 79

<212> PRT

<213> Homo sapiens

<400> 77

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Gln Ser Ala Ser Leu Gly
1 5 10 15

Glu Ser Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Asp Phe Ser Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe 50 55 60

Val Asn Tyr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys 65 70 75

<210> 78

<211> 79

<212> PRT

<213> Homo sapiens

<400> 78

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Gln Ser Ala Ser Leu Gly
1 5 10 15

Glu Ser Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Asp Phe Ser Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe 50 60

Ala Thr Tyr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
65 70 . 75

<210> 79

<211> 79

<212> PRT

<213> Homo sapiens

<400> 79

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Asp Phe Ser Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe 50 55 60

Ala Thr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
65 70 75

<210> 80

<211> 79

<212> PRT

<213> Homo sapiens

<400> 80

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Asp Phe Ser Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe
50 60

Ala Asn Tyr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
65 70 75

<210> 81

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<212> PRT

<213> Homo sapiens

<400> 81

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Lys Phe Ser Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe 50 55 60

Ala Asn Tyr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys 65 70 75

<210> 82

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<212> PRT

<213> Homo sapiens

<400> 82

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Leu Gln Lys Pro Gly Gln Ser 20 25 30

Pro Gln Leu Ile Tyr Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser 35 40 45

Gly Thr Lys Phe Ser Phe Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe 50 55 60

Ala Asn Tyr Tyr Cys Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys 65 70 75

<210> 83

<211> 87

<212> PRT

<213> Homo sapiens

<400> 83

Glu Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala 1 5 10 Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser His Gly Lys Ser Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Ser Thr Thr Ala Phe Met His Leu Asn Ser Leu 50 60

Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Leu Thr Val Ser Ser 85

<210> 84

<211> 87

<212> PRT

<213> Homo sapiens

<400> 84

Gln Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala 1 5 10 15

Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser His Gly Lys Ser Leu Glu Trp Ile Gly Lys Ala Thr Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Thr Val Asp Lys Ser Ser Thr Thr Ala Phe Met His Leu Asn Ser Leu 50 55 60

Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser 85

<210> 85

<211> 87

<212> PRT

<213> Homo sapiens

<400> 85

Gln Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala 1 5 10 15

Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Ser Thr Thr Ala Phe Met His Leu Asn Ser Leu 50 60

Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser 85

<210> 86

<211> 87

<212> PRT

<213> Homo sapiens

<400> 86

Gln Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala 1 5 10 15

Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Ser Thr Thr Ala Phe Met His Leu Asn Ser Leu 50 55 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser 85

<210> 87

<211> 87

<212> PRT

<213> Homo sapiens

<400> 87

Gln Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Thr Val Asp Lys Ser Ser Thr Thr Ala Phe Met Glu Leu Ser Ser Leu 50 55 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser

85

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<210> 88
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<211> 87

<212> PRT

<213> Homo sapiens

<400> 88

Gln Ile Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala 1 5 10 15

Ser Val Gln Val Ser Cys Lys Thr Ser Gly Tyr Ser Phe Thr Trp Val

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 55 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser

<210> 89

<211> 87

<212> PRT

<213> Homo sapiens

<400> 89

Gln Met Gln Leu Gln Gln Ser Gly Gly Glu Leu Val Lys Pro Gly Ala 1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 55 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser

<210> 90

<211> 87

<212> PRT

<213> Homo sapiens

<400> 90

Gln Ile Gln Leu Val Gln Ser Gly Gly Glu Leu Val Lys Pro Gly Ala 1 5 10 15 Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser 85

<210> 91

<211> 87

<212> PRT

<213> Homo sapiens

<400> 91

Gln Ile Gln Leu Val Gln Ser Gly Gly Glu Val Lys Lys Pro Gly Ala 1 5 10 . 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 55 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser 85

<210> 92

<211> 87

<212> PRT

<213> Homo sapiens

<400> 92

Gln Ile Gln Leu Val Gln Ser Gly Gly Glu Val Lys Lys Pro Gly Ala 1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 55 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser 85

<210> 93

<211> 87

<212> PRT

<213> Homo sapiens

<400> 93

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala 1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu
35 40 45

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser

<210> 94

<211> 87

<212> PRT

<213> Homo sapiens

<400> 94

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Ala 1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser

85

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<210> 95
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<211> 87

<212> PRT

<213> Homo sapiens

<400> 95

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala 1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 55 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser

<210> 96

<211> 87

<212> PRT

<213> Homo sapiens

<400> 96

Gln Ile Gln Leu Val Gln Ser Gly Pro Glu Val Val Lys Pro Gly Ala 1 5 10 15

Ser Val Arg Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Trp Val 20 25 30

Arg Gln Ser Pro Gly Lys Gly Leu Glu Trp Ile Gly Lys Ala Thr Leu 35 40 45

Thr Val Asp Lys Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu 50 60

Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys Ala Arg Trp Gly Gln Gly 65 70 75 80

Thr Thr Val Thr Val Ser Ser 85

<210> 97

<211> 107

<212> PRT

<213> Homo sapiens

<400> 97

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu
1 5 10 15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe 20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser 50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu 65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser 85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 98

<211> 332

<212> PRT

<213> Homo sapiens

<400> 98

Glu Phe Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys 20 25 30 .

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu 35 40 45

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu 50 55 60

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr 65 70 75 80

Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val 85 90 95

Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro 100 105 110

Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe 115 120 125

Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val 130 135 140

Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe 145 150 155 160 Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro 165 170 175

Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr
180 185 190

Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val 195 200 205

Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala 210 215 220

Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg 225 230 235 240

Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly 245 250 255

Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro 260 265 270

Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser 275 280 285

Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln 290 295 300

Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His 305 310 315 320

Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys 325 330

<210> 99

<211> 107

<212> PRT

<213> Homo sapiens

<400> 99

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu 1 5 10 15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe 20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln 35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser 50 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu 65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser 85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys

<210> 100

<211> 329

<212> PRT

<213> Homo sapiens

<400> 100

Glu Phe Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys

1 10 15

Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys
20 25 30

Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu $35 \hspace{1cm} 40 \hspace{1cm} 45$

Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu 50 55 60

Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr 65 70 75 80

Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val 85 90 95

Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro
100 105 110

Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys 115 120 125

Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val 130 135 140

Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr 145 150 155 160

Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu 165 170 175

Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His 180 185 190

Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys 195 200 205

Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln 210 220

Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met 225 235 240

Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro 245 250 255

Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn 260 265 270

Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu 275 280 285

Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val 290 295 300

Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln 305 310 315 320

Lys Ser Leu Ser Leu Ser Leu Gly Lys 325

<210> 101

<211> 17

<212> PRT

<213> Homo sapiens

<400> 101

Tyr Ile Asp Pro Tyr Asn Gly Ile Thr Ile Tyr Asp Gln Asn Leu Lys

1 10 15

Gly

<210> 102

<211> 38

<212> PRT

<213> Homo sapiens

<400> 102

Asp Ile Gln Met Thr Gln Ser Pro Ala Ser Gln Ser Ala Ser Leu Gly
1 5 10 15

Glu Ser Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Lys Ser 20 25 30

Pro Gln Leu Leu Ile Tyr 35